Date: ~~September 6, 02~~ **October 3, 2002**
To: T10 Technical Committee
From: Alvin Cox (alvin.cox@seagate.com)
Subject: SAS definition/note for skew

Skew is not defined in the current document. The following notes should be added to the indicated tables and referenced in the respective signal characteristic columns.

Add a note to **Table 15. Transmitted signal characteristics at Tx compliance points** flagged on the Signal characteristic **Skew**:

Skew measurement is valid only for balanced driver configurations. The measurement is to be made across a zero-length compliant load as shown is Figure ~~30~~ **33**. A valid pattern with a ~~broad spectrum~~ **long run of low density pattern, followed by a long run of high density pattern, followed by another short run of low density pattern** that produces a worst-case scenario with regard to ~~deterministic~~ jitter generation (~~CRPAT~~ **CJTPAT**) shall be transmitted during this test. For each signal (true and complement), a single-ended measurement of the mean of the eye crossing using a horizontal histogram vertically centered at the average value of the waveform shall be made. The same stable trigger, coherent to the data stream, shall be used for both the true and complement signals. Skew is defined as the time difference between the two means.

Add a note to **Table 16. Delivered signal characteristics at Rx compliance points** flagged on the Signal characteristic **Skew**:

Skew measurement is valid only for balanced driver configurations. The measurement is to be made across a worst-case compliant test load as shown is Figure ~~30~~ **33**. A valid pattern with a ~~broad spectrum~~ **long run of low density pattern, followed by a long run of high density pattern, followed by another short run of low density pattern** that produces a worst-case scenario with regard to ~~deterministic~~ jitter generation (~~CRPAT~~ **CJTPAT**) shall be transmitted during this test. For each signal (true and complement), a single-ended measurement of the mean of the eye crossing using a horizontal histogram vertically centered at the average value of the waveform shall be made. The same stable trigger, coherent to the data stream, shall be used for both the true and complement signals. Skew is defined as the time difference between the two means.